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09/848,559	05/03/2001	Joseph Yampolsky	USC017.001A	6148

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EXAMINER

POLK, SHARON A

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 11/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/848,559

Applicant(s)

YAMPOLSKY ET AL.

Examiner

Sharon Polk

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any extended patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-34 and 38 is/are allowed.
- 6) ☒ Claim(s) 1-27, 35-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11062003 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on May 3, 2001 has been considered by the examiner.

### ***Drawings***

2. The drawings are objected to because of minor formalities. The drawings are generally acceptable. However some of the lead line are too light, some "0" resemble "6". Also, the figures have extraneous markings, and some of the black boxes are not labeled. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 1, line 8 recites plurality of one core drivers. The examiner is not sure "one" is meant to be single or just inadvertently recited.

With regard to claims 15 and 22, it is unclear if there are two secondary windings associated with the respective cores.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Robinson et al. (Robinson), US 5,412,254 and Blumlein, US 2,465,840.**

With regard to claim 22, Robinson teaches a pulse generator (fig. 1), comprising: a first transformer core having a first primary winding (3); a second transformer core having a second primary winding (5), a core driver (2) which produces a primary pulse and provides said primary pulse to said first primary winding, and a secondary winding that links said first transformer core and said second transformer core (see fig. 1).

Robinson teaches the claimed pulse generator, but lacks the teaching of the core driver comprising a blumlein. However this feature clearly taught by Blumlein (see entire document). One of ordinary skill in the art of pulse generators would have been motivated at the time of the invention to incorporate the core driver as taught by Blumlein for the purpose of generating pulses of a predetermined form (3:40-41).

With regard to claim 23, Blumlein also teaches first and second inductors (figs).

With regard to claim 24, Blumlein also teaches the first inductor comprises multiple turns with a capacitor provided to each turn (figs).

**Claims 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Robinson and Cirkel et al. (Cirkel) US 4,763,093.**

With regard to claim 35, Robinson teaches a split-core transformer comprising: a plurality of barnstormer cores each core having a separate primary winding (3), each of said separate primary windings linking only one of said transformer cores; and a secondary winding (5), said secondary winding linking all of transformer cores. Robinson lacks the teaching of said transformer cores arranged in two columns of cores such that a shape of said secondary winding approximates an oval racetrack. However this feature is taught by Cirkel (fig. 10). One of ordinary skill in the art of pulse generators would have been motivated at the time of the invention to incorporate the oval racetrack shape for the purpose of solving inherent dielectric strength and heat dissipation problems in high-power pulse transformers.

With regard to claim 36, Robinson teaches a split-core transformer comprising: a plurality of toroidal cores each core having a separate primary winding (3), each of said separate primary windings linking only one of said transformer cores; and a secondary winding (5), said secondary winding linking all of transformer cores. Robinson lacks the teaching of said transformer cores arranged in two columns of cores such that a shape of said secondary winding approximates an circle. However this feature is taught or fairly suggested by Cirkel (figs. 8-9). One of ordinary skill in the art of pulse generators would have been motivated at the time of the invention to incorporate a circular shape for the purpose of solving inherent dielectric strength and heat dissipation problems in high-power pulse transformers.

**Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Collier, US 5,023,768 and Robinson.**

With regard to claim 37, Collier teaches a split-core transformer comprising: a magnetic core having a separate primary winding (30), and a multi-turn secondary winding (31-36). Collier does not teach each of said separate primary windings linking only one of said toroidal magnetic cores; and said secondary winding linking all of toroidal magnetic cores, said secondary winding linking each of said toroidal magnetic cores once per turn. However the teaching of linking the cores as claimed is taught or fairly suggested by Robinson (fig. 2). One of ordinary skill in the art of pulse generators would have been motivated at the time of the invention to incorporate the linking as

taught by Robinson for the purpose of producing a pulse of exceptional peak power (1:16-17).

***Allowable Subject Matter***

6. Claims 28-34, ~~38~~ are allowed. The following is an examiner's statement of reasons for allowance: With regard to claim 28, the prior art of record does not teach or fairly suggest a pulse generator producing a drive pulse for driving the plurality of core drivers with the drivers producing a primary pulse in response to the drive pulse with the drive pulse being longer in time than a primary pulse in combination with the adenoidal recited features of the claim. With regard to claim 38, the prior art of record does not teach or fairly suggest a pulse generator producing a drive pulse for driving the plurality of core drivers with the drivers producing a primary pulse in response to the drive pulse with the drive pulse being longer in time than a primary pulse in combination with the adenoidal recited features of the claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claims 1-21 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action. The following is a statement of reasons for the indication of allowable subject matter: With regard to claim 1, the prior art of record does not teach or fairly suggest a pulse generator producing a drive pulse for driving the plurality of core drivers with the drivers

producing a primary pulse in response to the drive pulse with the drive pulse being longer in time than a primary pulse in combination with the adenoidal recited features of the claim. With regard to claim 15, the prior art of record does not teach or fairly suggest a first core driver providing a primary winding driver pulse to one or more first connectors in combination with the additional recited elements as claimed.

Claims 25-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: With regard to claim 25, the prior art of record does not teach or fairly suggest the core driver comprising a snubber, comprising a resistor with a resistance substantially equal to the impedance of the blumlein in combination with the additional elements as recited. With regard to claim 26, the prior art of record does not teach or fairly suggest a pulse sharpener (saturable core inductor) in series with the blumlein in combination with the additional elements as recited. With regard to claim 27, the prior art of record does not teach or fairly suggest the blumlein of the pulse generator as specifically claimed being switched by a MOSFET in combination with the additional elements as recited.

#### ***Citation of Prior Art***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Nos. 4,365,287, 4,818,892, 5,650,670, 5,895,983 disclose aspects of the claimed invention. Additionally, Ridge et al., A Solid State Pulse



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Generator as a Grid Bias Supply for the MITTON also discloses aspects of the claimed invention.

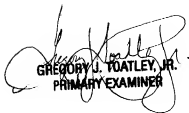
***Communication with the PTO***

8. 1Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharon Polk whose telephone number is 703-308-6257. The examiner can normally be reached on M-F 7-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 703-308-3119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

sp

  
GREGORY J. TOATLEY, JR.  
PRIMARY EXAMINER